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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,620	11/26/2003	Richard J. Melker	10457-125C	7104

29847 7590 03/13/2009

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EXAMINER	
TURK, NEIL N	

ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
03/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/722,620	MELKER ET AL.	
	Examiner	Art Unit	
	NEIL TURK	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 December 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-27,29,30 and 32-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-27, 29, 30, and 32-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Remarks

This Office Action fully acknowledges Applicant's remarks filed December 4th, 2008. Claims 1, 4-27, 29, 30, and 32-34 are pending. Claims 2, 3, and 31 have been cancelled. Any objections/rejections not repeated herein have been withdrawn by The Office.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4-27, 29, 30, and 32-34 *rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for providing a patient with a medication with an odorous marker additive and analyzing for the marker by way of electronic nose technology, does not reasonably provide enablement for providing a patient with a medication comprising a combination of at least one active therapeutic agent and a marker, which is not chemically part of the active therapeutic agent itself, and analyzing the breath by utilizing an instrument adapted to detect the marker . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope with these claims. Applicant's specification only provides enabling disclosure to the use of olfactory (odorous) markers and the use of electronic nose technology. Applicant's specification*

does not provide support for the use of any sort of marker that is detected by any such instrument adapted to detect the marker. Applicant's specification provides general narrative to the state of the art of many sensing technologies and generally discusses markers and medications, but does not relate all such elements and provide sufficient disclosure to show how such a method could be applied as currently claimed.

Claims 1, 4-27, 30, and 32-34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The amended recitation which recites that the medication comprises a combination of at least one therapeutic marker, which is not chemically part of the active therapeutic agent itself and wherein the combination is taken concurrently is regarded as new matter in the claims. Applicant's specification does not provide basis for such limitations. Examiner notes that it appears Applicant is drawing basis for such amended limitations from the disclosure of child application 11/097,647.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 8, 9, 12-20, 23-27, 29, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kell (5,776,783) in view of Katzman (5,962,335), hereafter Katzman.

Kell discloses a method for monitoring drug ingestion in a non-invasive manner (abstract; lines 19-22, col. 4). Kell discloses a quantitative compliance marker that is added to a medication (such as methadone), and the concentration of compliance marker and the metabolites (denoted as the marker as a combination of markers; compliance marker + metabolites thereof) of the quantitative compliance marker are measured in the urine sample and checked against expected baseline metabolite concentrations so as to indicate compliance or non-compliance in the taking of the medication. Kell discloses pharmacologically inert quantities of weakly acid medicines, such as benzodiazepine, can be used as quantitative compliance markers, whose concentration and concentration of metabolites thereof are to be measured. Kell discloses that the sample is analyzed using fluorescence polarization immunoassay (FPIA) technology, or other such standard analytical methods such as chromatography and other types of immunoassays may be used (abstract; lines 47-67, col. 4; lines 1-25, col. 5; col. 7; lines 45-67, col. 9; lines 25-45, col. 13; col. 14, including results/data tables to be shown to a person of interest (i.e. to be transmitted to the overseeing doctor, as in claims 16&17; lines 25-47, col. 16). With respect to claims 12-15 and 23-25, Examiner asserts that the disclosure of Kell to the marker being applied to methadone, for example, is readily known to be given in liquid form (first reacts with enzymes in the mouth) and pill form (first reacts with stomach acids, as well as first

absorbed in the gastrointestinal tract), as well as intravenously, and further methadone is capable of being administered intranasally, as a traditional pill form of methadone can be crushed into particulate form where it may then be administered intranasally (which also reads on the more broad term of taken via the lungs) .

Kell discloses analyzing urine samples from the patient and does not disclose analyzing breath samples from the patient. Kell discloses sensing technologies for analysis, but disclose analysis by a mass spectrometer.

Katzman discloses a breath test for detection of drug metabolism (abstract; columns 1&2). Katzman discloses that a safe and effective amount of the drug, isotopically-labelled is administered to a subject. Katzman discloses a breath test kit in which after a suitable amount of time the exhaled breath of the subject is analyzed to determine the concentration of a metabolite, which is then used to determine the rate of metabolism of the drug (abstract; lines 30-33). Katzman discloses sensing technology such as mass spectrometers for analyzing the patient's breath (lines 21-36, col. 7; lines 38-40, col. 8).

It would have been obvious to one of ordinary skill in the art to determine patient compliance in taking medication by applying the analysis of Kell to the patient's breath such as taught by Katzman. Kell discloses the need for monitoring patient compliance in non-invasive manners (lines 19-23, col. 4, for example One of ordinary skill in the art would have been motivated to test expelled breath because it would be non-invasive, safe, and is a method of sampling in which the likelihood of adulteration of the sample is almost null, thereby providing accurate results (Kell discloses adulteration of urine

samples as a problem and incurring additional steps to assure proper samples; see col. 8, for example). Further, both Kell and Katzman contemplate detection of metabolites, and Katzman shows that metabolites may be detected in breath samples. It would have been obvious to one of ordinary skill in the art to modify Kell to analyze the breath sample using a mass spectrometer such as taught by Katzman, such that in the case of breath analysis the use of a mass spectrometer provides a suitable and accurate sensing mechanism for the marker of interest in the breath sample.

Claims 4, 5, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 and in further view of Payne (WO 98/39470).

Kell/Katzman does not specifically disclose analyzing the patient's breath to confirm the presence of the marker by either semiconductor gas sensor technology or conductive polymer gas sensor technology. Kell/Katzman also does not specifically disclose capturing the sample of the patient's breath in a vessel prior to analysis.

Payne discloses a method of detecting conditions by analysis of gases or vapors. Payne discloses that the gas sensing device may comprise an array of semiconducting organic polymer gas sensors and the presence of any species present in the gas phase may be detected (pages 1-3). Payne shows that the sample of the patient's breath is captured in tube 18 before being passed down to region 20 which contains the gas sensing device (fig. 1). Payne discloses that other types of gas sensors such as metal oxide semiconductor (MOS), quartz resonator or SAW devices, as well as mass

spectrometry or a GC-MS device might be used (pages 3-5). Payne discloses that an array of such sensors are used so as to permit selective identification of a wide range of gases by recognizing the characteristic "fingerprint" of response across the array. Payne discloses that the output of the sensors correlates the output pattern (analyzed by analysis means 22) with the occurrence of certain conditions (page 4).

It would have been obvious to modify Kell/Katzman to test the breath sample with semiconducting gas sensors such as taught by Payne in order to provide dynamic sensing technology that may produce a characteristic response to correlate a condition in the patient's breath to the metabolites presence/absence. It would have also been obvious to modify Kell/Katzman to capture the patient's breath sample in a vessel prior to analysis such as taught by Payne so as to avoid contaminants in the atmosphere from interfering with the breath sample and allow to directly pass the sample to the sensing area.

Claims 6, 10, 11, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 and in further view of Forester (4,762,719).

Kell/Katzman does not teach that the marker is selected from the group as recited in claim 6, and that the marker is an odorous compound and is provided as a coating on the medication, wherein a substance to stimulate salivation is included with the marker as a coating.

Forester discloses a cough drop comprising a hard candy outer shell (coating, in which sucrose/corn syrup in the coating constitutes a substance to stimulate salivation) and a powdered centerfill, and discloses that the hard candy outer shell also contains menthol and eucalyptus as a liquid blend (abstract).

As methadone known to be given in pill form by Kell, adding the candy coating with menthol-eucalyptus to the pill such as taught by Forester is an obvious modification to Kell as it would make the methadone more amenable to be taken by the patient. Further, a candy coating with menthol is a widely-used flavoring, while also providing the implicit, added utility of a qualitative assessment in compliance/non-compliance in taking the medication by allowing an overseer/doctor to simply asses the patient's breath for the distinct odor of menthol.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 above, and in further view of Guth (4,353,869).

Kell discloses several sensing technologies for analysis, but does not specifically disclose analysis by a spectrophotometer. Katzman discloses detectors for the exhaled breath, but does not specifically disclose analysis by a spectrophotometer.

Guth discloses a breath analysis device in which a photometer is utilized to detect the analyte of interest in the subject's breath (abstract; lines 7-14, col. 2; lines 62-67, col. 6).

It would have been obvious to one of ordinary skill in the art to modify Kell/Katzman to analyze the breath sample using a photometer such as taught by Guth, such that in the case of breath analysis the use of a photometer provides a suitable and accurate sensing mechanism for the marker of interest in the breath sample.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 above, and in further view of Ueda.

Kell/Katzman does not disclose dehumidifying the sample of the patient's breath prior to analysis.

Ueda discloses a method and device for expiratory air examination. Ueda teaches that an absorbing filter is provided for removing particulates and contaminants which would hinder the aimed examination. Ueda also discloses that a dehumidifying agent may be included partially in the absorbing filter (lines 11-62, col. 6).

It would have been obvious to modify Kell/Katzman to include dehumidifying the breath sample with a dehumidifying agent before analysis such as taught by Ueda so as to remove any moisture that may hinder the aimed examination.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 above.

Kell/Katzman does not disclose providing the marker/medication for the patient to take transdermally.

It would have been obvious to detect for the marker for a medication provided by any known means, such as transdermally. Whereas the concentration of the marker will be lower than that expected from a marker/medication provided to the lungs of a patient, for example, one of ordinary skill in the art would anticipate such and adjust accordingly to determine the presence/absence of the marker through transdermal application.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kell in view of Katzman as applied to claims 1, 8, 9, 12-20, 23-27, 29, and 32 above.

Whereas Kell/Katzman does not specifically disclose a medication with more than one therapeutically active agent, it would have been obvious to apply the method of marker detection to a marker tied to any medication, including those which include more than one therapeutically active agent. This is seen as obvious, as Kelly/Katzman is concerned with checking patient compliance in taking the medication, through detection of the added marker. Thereby, the method being applied to a medication with multiple therapeutically active agents is obvious as the method for detecting compliance/non-compliance will still be linked to the marker associated with such medication.

Response to Arguments

Applicant's arguments filed December 4th, 2008 have been fully considered and are persuasive. **With regards to claim 32** rejected under 35 USC 112, 1st paragraph, Applicant traverses the rejection. Applicant argues that the recitation, "...wherein the marker is a combination of markers..." is not new matter. Examiner notes that the portions of the specification that Applicant cites for support do not link properly to the current application. Upon a search of the co-pending applications, it shows that Applicant is referring to the specification of child application 11/097/647. Further, current application 10/722,620 does not describe detection of the metabolite of the marker. Examiner asserts that paragraph [0044] of the current application's specification provide support for such a limitation.

Applicant's arguments, see pages 9-25, filed December 4th, 2008, with respect to the rejection(s) of the pending claims have been fully considered and are persuasive. Katzman does not disclose, as amended, that the medication comprises a combination of at least one active therapeutic agent and a marker, which is not chemically part of the active therapeutic agent itself. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of the amendments made to the claims. In view of Applicant's arguments and amendments to the claims, the claims are now presently rejected with a newly applied main reference to **Kell and a secondary reference to Katzman, as well as further combinations**, as discussed above.

Further, rejection under 35 USC 112, 1st of claims 1, 4-27, 30, and 32-34 is now applied as new matter has been added, as discussed above. Applicant argues that the amendments to the claims have basis in the specification, however, no such basis is found in the current application. Examiner asserts that Applicant's purported basis for these amendments appears to be coming from the co-pending, child application 11/097,647, but such amendments are not supported in the parent, current application.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4-9, 12-18, 20, 23-27 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 22-25, 29-31, and 34-42 of copending Application No. 11/097,647. Although the

conflicting claims are not identical, they are not patentably distinct from each other because claim 1 of the present application relates to a qualitative assessment for the marker in the patient's breath and claim 22 relates to a quantitative assessment of the patient's breath for a marker that arises from an additive, such a difference does not constitute a patentable distinction as both provide medication/marker taken concurrently by a patient to check for compliance/non-compliance, and it is obvious to further check for an actual marker concentration in addition to the qualitative assessment so as to have a more accurate and complete check of compliance/non-compliance.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NEIL TURK whose telephone number is (571)272-8914. The examiner can normally be reached on M-F, 9-630.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NT

/Jill Warden/
Supervisory Patent Examiner, Art Unit 1797